UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte BRUCE WAYNE MOORE

Appeal No. 2007-0610
Application No. 09/766,357
Technology Center 3600

Decided: August 27, 2007

Before HUBERT C. LORIN, LINDA E. HORNER, and
DAVID B. WALKER, *Administrative Patent Judges*.

LORIN, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

This is an appeal from a decision of the Examiner rejecting claims 1-4, 8-13, 17-22, 26, and 27.[1] 35 U.S.C. § 134 (2002). We have jurisdiction under 35 U.S.C. § 6(b) (2002).

---

[1] Claims 5-7, 14-16, and 23-25 have been canceled.

The invention is directed to a method (claim 1), computer program product (claim 10), and system (claim 19) for customizing direct marketing materials. According to the Specification (p. 1, ll. 15-17), "[d]irect marketers are constantly seeking improved methods for effectively targeting their advertisements to potential customers." The invention seeks to make that improvement by "developing models to predict customer purchases and then scoring potential customers for each predictive model" (p. 3, ll. 5-8). This involves developing "a model to predict whether or not a consumer will purchase a particular product" through the use of data mining (p. 11, ll. 4-8). An optimization model, used to optimize mass customization, is used to create a layout for potential customers. The recommended optimization models are a transportation model, a network model, or a generalized network model; models which can be solved through a computer program such as the IBM Optimization Subroutine Library. Specification, p. 12, ll. 27-28. The actual layout may be a "grid" layout system, frequently used in graphic design. Specification, p. 13, ll. 20-21, Fig. 5. The invention includes steps for determining specific layouts (claims 2 and 3) and passing the optimization model to a print manager for printing only if the expected profit exceeds the cost of producing the customized layout (claim 4).

The claims are rejected as follows:

- Claims 1, 8-10, 17-19, 26, and 27 are rejected under 35 U.S.C. §103(a) as being unpatentable over Kent (US Patent Publication No. 2002/0040374 A1) in view of Cornuejols (Gerard Cornuejols and Michael Trick, *Quantitative Methods for the Management Sciences: 45-760, Course Notes*, Graduate School of Industrial Administration, Carnegie Mellon University, Pittsburgh, Pa., Fall 1998).

- Claims 2, 11, and 20 are rejected under 35 U.S.C. §103(a) as being unpatentable over Kent in view of Cornuejols and further in view of Mohr (US Patent No. 6,826,727 B1).
- Claims 3, 12, and 21 are rejected under 35 U.S.C. §103(a) as being unpatentable over Kent in view of Cornuejols and further in view of McCormick (US Patent Publication No. 2002/0059339 A1).
- Claims 4, 13, and 22 are rejected under 35 U.S.C. §103(a) as being unpatentable over Kent in view of Cornuejols and further in view of Dowling (Melissa Dowling, *Breaking the Pagination Rules*, Catalog Age; June 1997; 14, 6; pp. 77-79) and Weiss (US Patent No. 6,801,333 B1).

We AFFIRM.

Appellant, in the Appeal Brief[2], argues the claims in accordance with the following groups corresponding to the rejections:

- claims 1, 8-10, 17-19, 26, and 27 (Appeal Br. 12-16);
- claim 2, 11, and 20 (Appeal Br. 16-17);
- claims 3, 12, and 21 (Appeal Br. 17-18); and,
- claims 4, 13, and 22 (Appeal Br. 18).

The rejection of claims 1, 8-10, 17-19, 26, and 27 under 35 U.S.C. §103(a) as being unpatentable over Kent in view of Cornuejols.

Because Appellant argues claims 1, 8-10, 17-19, 26, and 27 as a group, pursuant to the rules, the Board selects representative claim 1 to decide the appeal with respect to this rejection, and claims 8-10, 17-19, 26, and 27 will stand or fall with claim 1. 37 C.F.R. § 41.37(c)(1)(vii) (2006). Claim 1 reads as follows:

[2] Our decision will make reference to Appellant's Appeal Brief ("Appeal Br.," filed Jun. 19, 2006), the Examiner's Answer ("Answer," mailed Jul. 27, 2006), and to the Reply Brief ("Reply Br.," filed Sep. 13, 2006).

1. A computer implemented method for customizing direct marketing materials, comprising:

developing models to predict customer purchases;

scoring customers for each predictive model;

determining specific layout areas;

determining where a particular product can be placed in the layout areas; and

using an optimizing model to customize the layout areas for customers, wherein the optimization model used to customize the layout areas is at least one of a transportation model, a network model, or a generalized model.

A. Issue

The Examiner contends that Kent teaches all the claimed limitations but for the use of a transportation model, a network model, or a generalized network model. Answer 4. Kent is directed to a method of customizing mass-distributed publications. The Examiner relies on Cornuejols to show the use of a transportation model, a network model, or a generalized network model. Answer 4. Cornuejols is directed to coursework on the subject of network optimization. The Examiner contends that the claimed subject matter is a combination of Kent's customization of mass-distributed publications and Cornuejols' network optimization, which combination would have been obvious to one of ordinary skill in the art "to advantageously provide a quick and intuitive approach to customizing a layout." Answer 4.

Appellant argues that "Kent and Cornuejols do not teach or suggest all of the features asserted to be present by the Examiner ... [and] do not provide any teaching, suggestion, or incentive to combine or modify the

teachings in the manner necessary to reach the presently claimed invention." Appeal Br. 12. Specifically, Appellant argues that "Kent and Cornuejols, taken alone or in combination, fail to teach or suggest an optimization model to customize the layout areas for customers, wherein the optimization model used to customize the layout areas *is at least one of a transportation model, a network model, or a generalized network model*, as recited in claim 1. Appeal Br. 12 (emphasis added).

The issue is whether Appellant has shown that the Examiner erred in holding the combination of Kent's method of customizing mass-distributed publications with Cornuejols' network optimization would have rendered the subject matter of claim 1, i.e., using *a transportation model, a network model, or a generalized network model* to optimize customizing direct marketing materials, obvious to one of ordinary skill in the art at the time of the invention.

B. Findings of Fact

The record supports the following findings of fact (FF) by a preponderance of the evidence.

Scope and Content of the Prior Art

1. The Examiner found that:

> Kent discloses a method including steps of developing models to predict customer purchases (Kent at FIG. 4 at 100 and Paras. 0062-0068, "automatic personalization software program"), scoring customers for each predictive model (Kent at Paras. 0066-0068, "establishes priorities based upon criteria"), determining specific layout areas (Kent at Paras. 0091 and 0095- 0096, "standard design template" or "an aesthetically pleasing, readable final page"), determining where a particular product can be placed in the layout

> (Kent at Para. 0098, "match the relevant content and advertising, with a particular subscriber's predetermined desires and preferences"), and using an optimization model to customize the layout for customers (Kent at FIG. 5 at 48, Paras. 0077-0082, "optimization program," and Paras. 0098-0099, "final content of publication is variable").

Answer 4.

2. The Examiner's characterization of the scope and content of Kent included a concession that Kent does not disclose using an optimization model that is one of a transportation model, network model, or generalized network model.

> Although Kent teaches limitations of Appellant's base Claim 1 including using an optimization model to customize a layout, Kent does not explicitly disclose that the optimization model is one of a transportation model, network model, or generalized network model.

Answer 4.

3. Appellant agreed with the Examiner that "Kent does not teach or suggest an optimization model to customize the layout areas for customers, wherein the optimization model used to customize the layout areas is at least one of a transportation model, a network model, or a generalized network model." Appeal Br. 13.

4. Appellant did not traverse the Examiner's finding that Kent discloses the steps of the claimed subject matter directed to (a) developing models to predict customer purchases; (b) scoring customers for each predictive model; (c) determining specific layout areas; and (d) determining where a particular product can be placed in the layout areas; and (e) using an optimizing model to customize the layout areas for customers. Appeal Br. 12-16.

5. The Examiner relied on Cornuejols to show that an optimization model that is one of a transportation model, network model, or generalized network model is well known, finding that:

> Cornuejols teaches various methods of network optimization (special types of linear programming or constraint-based models) including a transportation model (Cornuejols at §11.3.3), a network model (Cornuejols at §11.4), and a generalized network model (Cornuejols at § 11.5).

Answer 4.

6. Appellant argued that "Cornuejols is directed to mathematical operations and not toward customizing direct marketing materials." Appeal Br. 15.

7. Appellant did not traverse the Examiner's finding that Cornuejols discloses optimization models including the transportation model, network model, and generalized network model. Appeal Br. 12-16. "Cornuejols *may teach a transportation model, a network model, and a generalized network model*, but this cited reference does not teach or suggest customizing direct marketing materials." Appeal Br. 13.

8. Kent discloses the use of an "optimization program" at paragraph 0077 ("designed to optimize the various parameters established in the profile 132 and correlate it to the database content 160 (FIG. 5) when it is time to print the publication.")

9. Cornuejols is a section of coursework on the subject of applying a special type of linear programming called network optimization. Real-life examples are given whereby problems are formulated into networks that are solved by linear programming. They include minimizing delays along a telephone network between two cities (p. 136, "network model"),

minimizing the distance traveled to clear snow and transport it to a location from roads in a city (p. 138, "transportation model), and arbitrage possibilities among foreign currencies (p. 145, "generalized network problem").

Differences Between the Prior Art and the Claimed Invention

10. The difference between the prior art and the claimed invention is that the claimed invention combines the steps of (a) developing models to predict customer purchases; (b) scoring customers for each predictive model; (c) determining specific layout areas; and (d) determining where a particular product can be placed in the layout areas; and (e) using an optimizing model to customize the layout areas for customers that Kent discloses and the transportation model, network model, or generalized network model that Cornuejols discloses.

11. The Examiner found that it would have been obvious to combine Kent and Cornuejols to reach the claimed invention. "It would have been obvious to modify the optimization model feature of Kent to include any one of the transportation model, network model, or generalized network model taught by Cornuejols to advantageously provide a quick and intuitive approach to customizing a layout (Cornuejols at § 11.1)." Answer 4.

The level of ordinary skill in the pertinent art.

12. Neither the Examiner nor Appellant has addressed the level of ordinary skill in the pertinent art of using optimization models to customize commercial operations. We will consider Kent and Cornuejols as representative of the level of ordinary skill in the art. *See Okajima v. Bourdeau,* 261 F.3d 1350, 1355, 59 USPQ2d 1795, 1797 (Fed. Cir. 2001) ("[T]he absence of specific findings on the level of skill in the art does not

give rise to reversible error 'where the prior art itself reflects an appropriate level and a need for testimony is not shown.'").

Objective Evidence of Nonobviousness

13. Appellant presented no evidence of secondary considerations of non-obviousness for our consideration.

C. Principles of Law

"Section 103 forbids issuance of a patent when 'the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.'" *KSR Int'l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1734, 82 USPQ2d 1385, 1391 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, and (3) the level of skill in the art. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966). *See also KSR*, 127 S.Ct. at 1734, 82 USPQ2d at 1391 ("While the sequence of these questions might be reordered in any particular case, the [*Graham*] factors continue to define the inquiry that controls.") The Court in *Graham* further noted that evidence of secondary considerations "might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented." 383 U.S. at 18, 148 USPQ at 467.

In *KSR*, the Supreme Court emphasized "the need for caution in granting a patent based on the combination of elements found in the prior

art," *id.* at 1739, 82 USPQ2d at 1395, and discussed circumstances in which a patent might be determined to be obvious.

In particular, the Supreme Court emphasized that "the principles laid down in *Graham* reaffirmed the 'functional approach' of *Hotchkiss*, 11 How. 248." *KSR,* 127 S.Ct. at 1739, 82 USPQ2d at 1395 (citing *Graham v. John Deere Co.*, 383 U.S. 1, 12 (1966) (emphasis added)), and reaffirmed principles based on its precedent that "[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *Id.* The Court explained:

> When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, §103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.

Id. at 1740, 82 USPQ2d at 1396. The operative question in this "functional approach" is thus "whether the improvement is more than the predictable use of prior art elements according to their established functions." *Id.*

The Supreme Court made clear that "[f]ollowing these principles may be more difficult in other cases than it is here because the claimed subject matter may involve more than the simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for the improvement." *Id.* The Court explained, "[o]ften, it will be

necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue." *Id.* at 1740-41, 82 USPQ2d at 1396. The Court noted that "[t]o facilitate review, this analysis should be made explicit." *Id.*, citing *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006) ("[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness"). However, "the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ." *Id.*

D. Analysis

The patentability of claim 1 under 35 U.S.C. § 103(a) (2002) depends on whether the claimed subject matter is obvious over Kent and Cornuejols

The Examiner found that Kent shows all the steps and limitations of the claimed method except the use of one of a transportation model, network model, or generalized network model as the model to optimize customization of the layout area. FF 1 and 2. Appellant did not traverse these findings. FF 4. Accordingly, we find that Kent shows (a) developing models to predict customer purchases; (b) scoring customers for each predictive model; (c) determining specific layout areas; and (d) determining

where a particular product can be placed in the layout areas; and (e) using an optimizing model to customize the layout areas for customers.

The Examiner relied upon Cornuejols to show that an optimization model that is one of a transportation model, network model, or generalized network model is well known. FF 5. Appellants did not traverse this finding. FF 7. Accordingly, we find that Cornuejols shows that an optimization model that is one of a transportation model, network model, or generalized network model.

Based on the analysis of the scope and content of Kent and Cornuejols, the facts support the conclusion that Kent shows (a) developing models to predict customer purchases; (b) scoring customers for each predictive model; (c) determining specific layout areas; (d) determining where a particular product can be placed in the layout areas; and (e) using an optimizing model to customize the layout areas for customers, and that Cornuejols shows network optimization models such as the transportation model, network model, or generalized network model.

Accordingly, all of the claimed steps and their limitations are disclosed in the prior art. Each step claimed performs as one of ordinary skill in the art would expect it to perform from reading the cited prior art. Each performs a known function and that function is spelled out in the prior art. The steps claimed do no more than what one would expect if the steps described in Kent and Cornuejols were to be combined. "The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *KSR Int'l v. Teleflex Inc.*, 127 S.Ct. 1727, 1739, 82 USPQ2d 1385, 1395 (2007). In that regard,

Appellant has presented no objective evidence of nonobviousness to dislodge a determination that the claimed subject matter is obvious. FF 13.

There being no material dispute concerning the *Graham* inquiries, claim 1 is unpatentable under §103 as long as there is "some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *KSR Int'l v. Teleflex Inc.*, 127 S.Ct. 1727, 1741, 82 USPQ2d 1385, 1396 (2007) (quoting *Kahn*).

Appellant argues that "[n]o teaching, suggestion, or incentive is present to combine the teachings of Kent with the teaching of Cornuejols in the manner asserted by the Examiner." Appeal Br. 13. In point of fact, the Examiner has argued that "[i]t would have been obvious to modify the optimization model feature of Kent to include any one of the transportation model, network model, or generalized network model taught by Cornuejols to *advantageously provide a quick and intuitive approach to customizing a layout* (Cornuejols at § 11.1)." Answer 4. FF 11. Accordingly, the Examiner *has* articulated a reason why one practicing the Kent method would look to Cornuejols for an optimization model.

Appellant challenges the Examiner's reasoning for finding the claimed combination obvious on the grounds that "[t]he Examiner may not merely state that the modification would have been obvious to one of ordinary skill in the art without pointing out in the prior art a suggestion of the desirability of the proposed modification." However, the Examiner's rationale *was* taken literally from Cornuejols (see section 11.1 which uses the same terms "quick" and "intuitive" to describe the advantages in using network optimization) and therefore, contrary to Appellant's argument the Examiner *did* point out in the prior art a suggestion of the desirability of the

proposed modification. Nonetheless, the "obviousness analysis cannot be confined by ... overemphasis on the importance of published articles and the explicit content of issued patents." *KSR*, 82 USPQ at 1396.

Appellant also challenges the Examiner's reasoning for finding the claimed combination obvious on the grounds that one of ordinary skill practicing the Kent method would have no reason to look to Cornuejols for the optimization models described therein. "Kent only teaches producing mass distributed publication[s] through the creation of a plurality of subscriber specific versions, which is a one-to-one model. Cornuejols teaches a formal quantitative approach to problem solving." Appeal Br. 15. We disagree.

Kent discloses the use of an "optimization program." FF. 8. One of ordinary skill practicing the Kent method would have reason to look to common optimization models to practice the Kent method.

Cornuejols describes a special type of linear programming called network optimization. FF 9. Cornuejols discusses how one can practically apply network optimization models to real-life situations. One of ordinary skill reading Cornuejols would have reason to envision applying network optimization models to solving a broad array of problems.

The only question is whether one of ordinary skill reading Kent would be led to Cornuejols' models as ways of optimizing Kent's method. Kent's method involves a starting node (the original layout), a finish node (the final layout), and a network in between comprising various combinations of customer preferences and associated prioritized content. The decision on how best to prioritize content on a publication (i.e., an ideal layout) given customers' preferences appears to be a problem of the type discussed in

Cornuejols. The problem of finding the optimum path from start to finish through the network is a problem Kent is seeking to solve with an optimization program. And this is precisely the type of problem which Cornuejols' network optimization models would be useful in solving. Accordingly, there is a reasonable expectation that applying Cornuejols' network optimization models in the context of Kent's customizing method would yield an optimized layout consistent with customer's preferences "quickly" and "intuitive[ly]" (Answer 4; Cornuejols, 11.1).

Accordingly, Appellant has not shown that the Examiner's reasoning in combining the references to arrive at the claimed invention is flawed or faulty.

We find therefore that the Examiner has shown that the references disclose each step of the claim and its limitations and provided reasoning with rational underpinning to combine the references to arrive at the claimed invention.

E. Conclusion of Law

On the record before us, Appellant has failed to show that the Examiner erred in rejecting claims 1, 8-10, 17-19, 26, and 27 over the prior art.

The rejection of claims 2, 11, and 20 under 35 U.S.C. §103(a) as being unpatentable over Kent in view of Cornuejols and further in view of Mohr.

Because Appellant argues claims 2, 11, and 20 as a group, pursuant to the rules, the Board selects representative claim 2 to decide the appeal with

respect to this rejection, and claims 11 and 20 will stand or fall with claim 2. 37 C.F.R. § 41.37(c)(1)(vii) (2006). Claim 2 reads as follows:

> 2. The computer implemented method according to claim 1, wherein the step of determining specific layout areas further comprises determining the maximum and minimum possible sizes for each layout area.

A. Issue

The issue is whether Appellant has shown that the Examiner erred in holding the cited prior art combination would have rendered the subject matter of claim 2 obvious to one of ordinary skill in the art at the time of the invention.

B. Findings of Fact

The record supports the following findings of fact (FF) by a preponderance of the evidence.

1. We incorporate herein the facts under the Findings of Fact section for the rejection of claims 1, 8-10, 17-19, 26, and 27 above and add the following.

2. The Examiner found that:

> As discussed in detail above, Kent teaches all limitations recited in Appellant's Claim 1. However, Kent does not explicitly provide that the step of determining specific layout areas includes determining the maximum and minimum possible sizes for each product layout. Mohr provides an automatic document layout system that maximizes or minimizes shape elements, thereby teaching the element deficient from Kent (Mohr at Abstract, Col. 3, L. 33-48, and Col. 18, L. 38-56). Accordingly, it would have been obvious to one of ordinary skill in the art at the time Appellant's invention was made to modify Kent to include the maximum and minimum size determination step of Mohr

for advantageously providing a useful tool for automatically arranging and sizing document elements (Mohr at Col. 3, L. 45- 48).

Answer 5.

3. Appellant argues that "Mohr does not teach or suggest an optimization model to customize the layout areas for customers, wherein the optimization model that is used to customize the layout areas is at least one of a transportation model, a network model, or a generalized network model." Appeal Br. 17.

C. Principles of Law

We incorporate herein the principles of law under the Principles of Law section for the rejection of claims 1, 8-10, 17-19, 26, and 27 above.

D. Analysis

Appellant's arguments as to claim 2 are the same as that argued for the patentability of claim 1. FF 3. Accordingly for the same reasons we used to affirm the rejection of claim 1, we affirm the rejection of claim 2.

E. Conclusion of Law

On the record before us, Appellant has failed to show that the Examiner erred in rejecting claims 2, 11, and 20 over the prior art.

The rejection of claims 3, 12, and 21 under 35 U.S.C. §103(a) as being unpatentable over Kent in view of Cornuejols and further in view of McCormick.

Because Appellant argues claims 3, 12, and 21 as a group, pursuant to the rules, the Board selects representative claim 3 to decide the appeal with respect to this rejection, and claims 12 and 21 will stand or fall with claim 3. 37 C.F.R. § 41.37(c)(1)(vii) (2006). Claim 3 reads as follows:

> 3. The computer implemented method according to claim 1, wherein the step of determining specific layout areas further comprises determining a preference multiplier for each layout area.

A. Issue

The issue is whether Appellant has shown that the Examiner erred in holding the cited prior art combination would have rendered the subject matter of claim 3 obvious to one of ordinary skill in the art at the time of the invention.

B. Findings of Fact

The record supports the following findings of fact (FF) by a preponderance of the evidence.

1. We incorporate herein the facts under the Findings of Fact section for the rejection of claims 1, 8-10, 17-19, 26, and 27 above and add the following.

2. The Examiner found that:

> Kent does not explicitly teach that the step of determining specific layout areas further includes determining a preference multiplier for each layout area. McCormick provides a system that establishes correlations between the design and content elements of a first document and responses of recipients (McCormick at FIG. 4 and Para.

> 0027). Thus, it would have been obvious to one of ordinary skill in the art at the time Appellant's invention was made to modify Kent to include the preference multiplier feature of McCormick to advantageously assist in designing a document in a manner that is not merely aesthetically attractive but demonstrably effective (McCormick at Para. 0070).

Answer 6.

3. Appellant argues that "McCormick does not teach or suggest an optimization model to customize the layout areas for customers, wherein the optimization model that is used to customize the layout areas is at least one of a transportation model, a network model, or a generalized network model." Appeal Br. 17-18.

C. Principles of Law

We incorporate herein the principles of law under the Principles of Law section for the rejection of claims 1, 8-10, 17-19, 26, and 27 above.

D. Analysis

Appellant's arguments as to claim 3 are the same as that argued for the patentability of claim 1. FF 3. Accordingly for the same reasons, we affirm the rejection of claim 3.

E. Conclusion of Law

On the record before us, Appellant has failed to show that the Examiner erred in rejecting claims 3, 12, and 21 over the prior art.

The rejection of claims 4, 13, and 22 under 35 U.S.C. §103(a) as being unpatentable over Kent in view of Cornuejols and further in view of Dowling and Weiss.

Because Appellant argues claims 4, 13, and 22 as a group, pursuant to the rules, the Board selects representative claim 4 to decide the appeal with respect to this rejection, and claims 13 and 22 will stand or fall with claim 3. 37 C.F.R. § 41.37(c)(1)(vii) (2006). Claim 4 reads as follows:

> 4. The computer implemented method according to claim 1, further comprising passing the optimization model to a print manager for printing only if the expected profit exceeds the production cost of the customized layout areas.

A. Issue

The issue is whether Appellant has shown that the Examiner erred in holding the cited prior art combination would have rendered the subject matter of claim 4 obvious to one of ordinary skill in the art at the time of the invention.

B. Findings of Fact

The record supports the following findings of fact (FF) by a preponderance of the evidence.

1. We incorporate herein the facts under the Findings of Fact section for the rejection of claims 1, 8-10, 17-19, 26, and 27 above and add the following.

2. The Examiner found that:

> While Kent does teach a print manager for printing (Kent at FIG. 1 at 34), Kent does not explicitly disclose a step of passing the optimization model output to the print manager for printing only if the expected profit exceeds the production cost of the customized layout.

> Dowling describes a printing condition in which the average price of items on a catalog page are required to be greater than the cost of printing the page (Dowling at p. 79). Dowling does not explicitly discuss printing criteria comparing *expected profit* to production cost. However, Weiss teaches comparing expected profit to cost for evaluating the desirability of printing a document (Weiss at Col. 1, L. 45-53).
>
> Accordingly, motivated by higher returns to layout customization (Dowling at p. 79), it would have been obvious to one of ordinary skill in the art at the time Appellant's invention was made to modify Kent in view of the teachings of Dowling and the expected profit teachings Weiss for providing a step of passing the optimization model output to a print manager for printing only if expected profit exceeds the production cost of the customized layout.

Answer 6-7 (emphasis in original).

3. Appellant argues that "Dowling and Weiss do not teach or suggest an optimization model to customize the layout areas for customers, wherein the optimization model that is used to customize the layout areas is at least one of a transportation model, a network model, or a generalized network model." Appeal Br. 18.

C. Principles of Law

We incorporate herein the principles of law under the Principles of Law section for the rejection of claims 1, 8-10, 17-19, 26, and 27 above.

D. Analysis

Appellant's arguments as to claim 4 are the same as that argued for the patentability of claim 1. FF 3. Accordingly for the same reasons, we affirm the rejection of claim 4.

E. Conclusion of Law

On the record before us, Appellant has failed to show that the Examiner erred in rejecting claims *4, 13, and 22* over the prior art.

DECISION

The decision of the Examiner rejecting claims 1, 8-10, 17-19, 26, and 27 under 35 U.S.C. §103(a) over Kent and Cornuejols; claim 2, 11, and 20 under 35 U.S.C. §103(a) over Kent, Cornuejols, and Mohr; claims 3, 12, and 21 under 35 U.S.C. §103(a) over Kent, Cornuejols, and McCormick; claims 4, 13, and 22 under 35 U.S.C. §103(a) over Kent, Cornuejols, Dowling, and Weiss, is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

jlb

IBM Corporation
Intellectual Property Law
Dept. IQOA/Bldg. 040-3
1701 North Street
Endicott, NY 13760